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Journal of the Society of Arts.

FRIDAY, JULY 31, 1863.

SOCIETY'S MEMORIAL OF THE PRINCE CONSORT.

NOTICE TO MEMBERS.

In accordance with the Report adopted at the General Meeting held on the 17th inst., additional subscriptions for carrying out the Society's Memorial of His Royal Highness the Prince Consort are invited. Any member desiring to subscribe, or to increase the amount of his subscription, is requested to send a Cheque or Post-office Order, made payable to Mr. Samuel Thomas Davenport, the Financial Officer.

THE ROYAL ACADEMY OF ARTS.

The Commissioners, consisting of Earl Stanhope (Chairman), Viscount Hardinge, Lord Elcho, M.P., Sir Edmund W. Head, Bart., Mr. William Stirling, M.P., Mr. Henry Danby Seymour, M.P., and Mr. Henry Reeve, appointed "to inquire into the present position of the Royal Academy in relation to the Fine Arts, and into the circumstances and conditions under which it occupies a portion of the National Gallery, and to suggest such measures as may be required to render it more useful in promoting Art and in improving and developing public taste," have issued the following report:—

The Royal Academy, since its first establishment in 1768, appears to us to have been of great service to the country, in assisting to keep up and to cultivate a taste for Art. Comprising in its ranks a long series of eminent names, its honours have been an object of emulation to the great body of artists, and an order of merit, though with some important exceptions, to the most distinguished.

Many of its members have at every period, and often at a great pecuniary sacrifice to themselves, given time to the superintendence and teaching of the schools. That teaching has in all cases been entirely gratuitous. The funds of the Academy have been liberally applied to the relief of its veteran members, or of their widows, who have fallen into unmerited distress. Other artists, also, wholly unconnected with the institution, except in the light of exhibitors, have in their hour of need largely participated in its benefactions.

The merits of the Royal Academy have been recognised on several occasions by men of great eminence in public life. Thus, in the debate in the House of Commons, on the 22nd of July, 1844, Sir Robert Peel "seized the occasion of acknowledging the gratitude due to the institution (the Royal Academy) on account of the great benefit which it had conferred upon the Arts. The Exhibition was freely open to all artists, and its funds were applied solely to the promotion and support of Art, and he did say that it was to the Royal Academy, and not to Parliament, that the merit was due of founding in this country, a national school of Art."

In the same debate, Lord John Russell said that "there could scarcely be a better reply to the remarks of the honourable member (Mr. Hume) than that the management of the Royal Academy now afforded. As far as he could see, that institution was conducted in no grudging or envious spirit towards artists; no talent was ever kept

in the background; no proper advantage appeared to be in any way denied it."

It does not seem to us inconsistent with the general commendation which we have here expressed, that we should now have to state some serious defects, and to propose some considerable changes. In several instances experience has demonstrated the existence of evils which at first might not be anticipated or surmised. It has also frequently happened that the original framework or constitution of the Academy has proved inadequate to the largely increased number of artists, and to the growing requirements of Art.

One of our first inquiries was directed to the precise legal position of the Royal Academy, under its foundation by the Royal Instrument, dated December 10, 1768. It appeared to us that the future utility of the Royal Academy must depend on its funds, and that its capacity for entering into any arrangement with the Government, with regard to the erection or improvement of any building, involved the question of the security of its property, as held under the present constitution.

We therefore felt it our duty to request the Right Honourable the Secretary of State for the Home Department to obtain for us the opinion of the law officers of the Crown, on certain doubtful questions which had suggested themselves to us in the course of our inquiry.

We are now, according to the advice which we have received, able to report our belief that the Declaration of Trust under which the property is held is such as could be enforced in a court of equity; that the trusts are unobjectionable; and the *cestui que* trust well ascertained. We do not think that the requirement of the Royal sanction to grants of money to any one person exceeding £50 would operate, beyond the letter of the article itself, which forbids such excess only without the prescribed sanction. We believe, also, that charity to members and teaching in the schools being duly provided for, any surplus funds may, under the direction of the Council, be applied to such purposes as may tend to support and forward the main objects of the society, as they are to be collected from the "Instrument" and the "Constitution and Laws."

We believe that the "Instrument" has none of the characteristics or incidents of a Charter. It possesses, however, the force of a solemn and public declaration by the original members of the society, of its main objects, to which the succeeding members, from time to time, have become, practically, parties; and in that light, it would, in our opinion, be regarded in a court of law or equity; in other words, such is its legal effect. We think further that the trust expressed in the Declaration of Trust might be enforced against the Trustees, in case of default, at the instance of any member or officer of the society suing for and on behalf of the general body.

The legal questions have thus received a sufficient solution; nevertheless, it seems to us that the position of the Academy would be far better defined and more satisfactory if, instead of the instrument of 1768, it rested on a royal charter to be granted by the crown. We think also that such a charter would be most desirable, as giving to the Academy a clear and definite public character instead of the anomalous and ambiguous position which under the instrument of 1768 it may be held to occupy.

There is one part, however, of the present system which, though not free from some anomaly, seems to us attended with great practical advantage. We allude to the personal relation which exists between your Majesty and the Academy, in the appointment or the confirmation of various officers and in several other points on which your royal consent is required. On this subject we fully agree with the opinion which a witness before us, Lord Taunton, has expressed, that "this kind of personal communication between the sovereign and the Royal Academy is very useful both to the throne and to the artists of this country. To the throne it gives that kind of lustre which the cultivation of the arts and the patronage of the arts

confer upon persons in that elevated station; while, undoubtedly, to the artists it gives encouragement of a most gratifying kind." We think that it implies on the part of the sovereign a personal interest in the Fine Arts, and that it confers dignity upon the Academy itself. We are therefore clearly of opinion that in any Charter that might be given, the present relation between the sovereign and the Academy ought to be maintained. But we would further add to that relation the grant of visitatorial power to the crown, similar in principle to the visitatorial power that exists in the colleges of Oxford and Cambridge, so far as regards acts of the Royal Academy which have not received the special sanction of the crown.

Supposing a Charter to be given, we will now proceed to state our judgment as to the manner in which the Academy should be reconstituted, partly by provisions in the Charter and partly by arrangements to be made in the Academy itself. For the greater clearness of our inquiry while it was in progress, we divided it so far as possible into five classes or heads; and it is under these heads that our recommendations may now, we think, be most conveniently set forth.

A.—CONSTITUTION OF THE ACADEMY.

All the members of the Academy whom we have had occasion to examine, have with the utmost frankness and readiness explained to us the state of that institution. We desire to refer more especially to the very able evidence given by Sir Charles Lock Eastlake, the President, in a manner well according with the high character which that gentleman so deservedly bears. His evidence will be found to detail in the most ample manner the exact situation of the Academy in every branch of its affairs.

Looking to the future, some of the witnesses whom we have examined have expressed an opinion that the Academy might properly be confined to painting only, leaving architecture and sculpture to be provided each with a separate institution of its own. We can by no means concur in this view of the subject. We think it most desirable that the Academy should, as at present, embrace the great branches of art—painting, sculpture, and architecture; and we desire only to point out the means by which in our judgment the Academy may be made more conducive to that end.

Other witnesses have expressed an opinion that there might be a representative system established by which in the event of a vacancy the candidate should be nominated by some constituent body independent of the Royal Academy. But whenever we came to inquire how that constituent body should be composed, or what should be the qualification of its members, we did not obtain from such witnesses any very clear or satisfactory solution. It seems to us that the object sought is not attainable without incurring the risk of much greater evils than it professes to cure, and we can by no means advise any attempt to introduce it.

But while holding this opinion we conceive that the constitution of the Academy should rest on a wider and more liberal basis, and that it should be made more useful than it is at present in promoting art, and in aiding the development of public taste. We think that it should be viewed as a great national institution for the promotion of art, and that, by the grant of a Charter as well as by the rules which it should frame, its public character and duties should be distinctly recognised and defined.

Looking, in the first place, to the composition of the Royal Academy, it has been shown in evidence that the funds of the Academy are mainly supplied by the proceeds of the annual exhibition, and that the attraction of that exhibition depends chiefly upon the exertions of the painters. From this consideration it would seem to follow, as several witnesses have stated, that there is no injustice or anomaly in the fact that the members of the Academy should consist of painters in a larger proportion than of artists in any other walk of art. Looking, however, to the fact that it is desirable that the Academy should embrace all the main

branches of art, we think that the Academy might be advantageously extended from its present number of forty academicians and two academician engravers, to the number of fifty, the additional eight members thus to be elected being chosen in the first instance from the classes of architects and sculptors.

There is no point on which greater variety of opinion appears to prevail than on the question of adding what may be termed a lay element to the Academy. Many members of the Academy, Sir Charles Eastlake at their head, and all entitled to great weight in their opinion, have, while expressing their respect for any person who might be so selected, stated strong objections to associating non-artists with artists in deciding any question of Art. Other witnesses, again, comprising very eminent members of the artistic profession, and gentlemen worthy of all honour in their position as critics and connoisseurs, declare themselves clearly of opinion that the addition of some persons not artists would have a most valuable tendency in conciliating the confidence of the general public, and would have some practical effect in improving the working of the system. We are bound to declare, on careful consideration, that our own judgment points to the second of these alternatives. We are quite aware, however, that its harmonious action must depend in a great measure on the practical concurrence and good feeling of the members of the Academy themselves, and we are most anxious, therefore, to introduce this new element in such a manner, and with such conditions, as may render it consistent with that weight which should properly belong to artists by profession.

We are, therefore, of opinion, that to the fifty professional Academicians there should be added ten members not being artists. We propose to leave their election to the Academy in General Assembly, but subject to the confirmation of the Crown. In our judgment they should be appointed for a period of five years, but should be re-eligible. Any non-professional member who did not attend at least one meeting in any one year should be held to have vacated his office.

It is to be observed that, even as at present constituted, the Academy comprises five gentlemen not artists as honorary members. Those are the Bishop of Oxford, Chaplain; the Very Reverend Dean Milman, Professor of Ancient Literature; George Grote, Esq., Professor of Ancient History; Sir Henry Holland, Baronet, Secretary for Foreign Correspondence; and Earl Stanhope, Antiquary. Those honorary members, however, are not expected to perform any duty of any kind; their posts are conferred upon them as personal distinctions, and do not entitle them to take any part in the proceedings of the Academy. The members whom we desire to see introduced would, on the contrary, have important duties to fulfil.

Besides the duties which the lay members might have entrusted to them in the management of the Academy itself, some of them might also render it important service elsewhere, if their presence in either House of Parliament enabled them to explain its proceedings, when required, to the Legislature. On the other hand, these lay members should hold no diploma nor derive any titular distinction from their connexion with the Academy. Nor should they be held entitled to any of the pensions or retiring allowances which the artist members of the Academy may claim.

In the event of ten such members being added to the Academy, to be chosen by the Academy itself, our chairman is desirous to explain, on his own part, that he would on no account seek to avail himself of his present position as one of the five honorary members, or deem himself on that account entitled to maintain an office bearing perhaps the same name but attended with important duties. On the contrary, he should then consider his post as vacant, to be filled by the Academy in any manner they might deem preferable.

The academicians would therefore consist of fifty professional and ten non-professional members.

The system of Associates, as it exists at present, seems to be almost by common consent admitted to be unsatisfactory. The number is fixed at twenty, and the persons elected to that rank have been encouraged to form hopes, considering their limited number, of speedy admission to the Academy—hopes which their own progress in Art has not always completely justified, and which could not in every case at present be fulfilled. It has been suggested by Sir Charles Eastlake that the number might be advantageously reduced. Other witnesses have argued with considerable force that the whole probationary system is unnecessary, and that any artist deemed deserving of the distinction ought at once to be admitted to the full honours of the Academy.

On careful consideration, however, we have arrived at the conclusion, supported by other evidence, that the Associate class, so far from being either abolished or reduced, might be far more advantageously extended. We think that its extension, under such rules and provisions as we shall now proceed to explain, would be most valuable as introducing a large amount of youthful talent into the Academy, and as connecting that institution more thoroughly than is the case at present with the whole body of artists beyond its walls.

We would therefore propose that the number of the Associates of the Royal Academy should be increased at once to fifty, with power to fix at any time hereafter a larger number, with the assent of the Crown.

We think, however, that this Associate class should not, as the one now existing, be debarred from any control or jurisdiction in the affairs of the Academy. We propose, on the contrary, that the Associates should be members of the corporate body, and jointly with the Academicians should constitute the General Assembly.

Several persons have suggested to us that the President instead of being, as the rules at present require, himself an artist, should be some person of accomplishments and of high social position not necessarily a professor of Art. We are of opinion that such an election would not be consistent with the dignity of British art, and we recommend that the President should in all cases be nominated from among the Royal Academicians, irrespective of the branch of art that he may happen to profess, and that he should be selected not because he belonged to one particular branch, but on account of his superior fitness for the post.

The present salary of the President is fixed at £300 a year. We have no hesitation in expressing our opinion that this salary is a wholly inadequate remuneration for the duties he is expected to discharge. Looking to the dignity of that office as we desire it to be maintained, and looking at the remuneration afforded in similar positions of public trust, we conceive that the position and labours of the President of the Royal Academy must be such as to justify an amount of income very far exceeding that which is now bestowed. We conceive that in emolument as well as in dignity the Presidency ought to be established and regarded as the great prize of British art.

We recommend:—

That the President should, as now, be elected annually, but should be re-eligible.

That there should be also two Vice-Presidents as honorary officers, who should be selected from the other two main branches to which the President himself may not belong, so that in all cases Painting, Sculpture, and Architecture should be represented, either in the President or in a Vice-President.

That the President should be nominated by the Royal Academicians, and should be elected by the General Assembly.

That the Council should be nominated by the Royal Academicians from amongst their own body, subject to the approval of the General Assembly, the Council to consist of the President, the two Vice-Presidents, and nine other members of the Royal Academy, and of those nine two should be non-professional members.

That one-fourth, that is, three members of the Council, one of them being a non-professional member, should annually vacate office, but should be re-eligible.

That the Council should have the general management of the executive affairs of the Academy, with power to make bye-laws for their own guidance.

That there should be a General Assembly, consisting of Royal Academicians and Associates of the Royal Academy, held at least twice in each year, at which the members of the Council should be approved, the rules confirmed, and the elections made.

That it should be in the power of the President at any time to summon a special meeting of the Council, and that on the receipt by the President of a requisition, signed by a certain proportion of Academicians or Associates, he should be bound to summon a General Assembly.

That it should be in the power of the President and Council at any time to summon a General Assembly of the Academy.

That an annual report should be published of the proceedings of the Academy, with a statement of its income and expenditure duly audited, and that such report should be submitted to the General Assembly at the first of its annual meetings for approval and adoption.

It appears to us that the advantages of the Royal Academy and of its Council, on the plan that we suggest, would be extended to many other points besides the improved working of the Academy itself. There has been a general, and, as we think, well-founded complaint during many years of the bad taste and utter want of system which have been displayed in the construction of our public buildings. That construction has depended too much on the rapid succession of the several politicians who have filled the office of First Commissioner of Public Works, and on the conflicting votes, which, according to their recommendations, have been passed by the House of Commons. It seems to us that the Royal Academy, constituted in the manner we have proposed, and comprising within it some men of approved ability, not themselves artists, but entitled to pass a judgment upon Art, would form a valuable permanent Council of advice and reference in all matters relating to the Fine Arts, public monuments, and buildings. We think that the successive advisers of the Crown, far from feeling any jealousy of such advice, would welcome it with pleasure as relieving themselves from questions of great embarrassment, and as likely to be conducive to a more satisfactory result in Architecture and in Art than has at present been found attainable.

It is only since 1853 that engravers have been deemed entitled to election as Royal Academicians. Even at present they do not appear to be regarded as full Academicians, but form a separate class under the name of Academician Engravers, and also of Associate Engravers. We can see no just ground for their still forming any separate class. We think that such members of the body as are deemed entitled to that honour should be elected to the full rank of Academicians and Associates, and bear those titles in the same manner as the rest.

Within the last twelve months a system has been established in the Royal Academy, by which Academicians far advanced in life, and less fitted for active duties, are allowed to withdraw from the full number, under the title of honorary retired Academicians, and with the enjoyment of a pension of £100 a year. At the commencement of our inquiries two Academicians had already availed themselves of this privilege, and a third, we understand, has since been added to the number. We desire to express our approval of this regulation, by which Academicians in the decline of life may make way for others more fitted for active duty, while retaining themselves the rank and the distinction to which they are well entitled, as well as a share of the emolument which they may be considered to have fairly earned.

In all foreign Academies, so far as we are aware, there exists an honorary class consisting of artists of other countries, by which such artists may receive tokens of honour

from other nations besides their own. It is very disadvantageous to the Academy that no such members should at present be included in its ranks, and we recommend that there should be Honorary Foreign Members of the Academy, selected by the Council, and approved by the General Assembly.

That they should have no voice in the management of the concerns of the Academy; but that they should be entitled to send a certain number of pictures to the annual exhibitions of the Royal Academy.

We also recognize great value in the suggestion first made to us in the evidence of Mr. A. J. Beresford Hope, that there should be a class of Art-workmen connected with the Royal Academy. Looking to the intimate connexion between the Fine Arts and those of a more mechanical character, and the great importance of extending the influence of the former over the latter, we think that workmen of great excellence in metal, stone, wood, and other materials, might be properly distinguished by some medal or certificate of honour conferred by the Royal Academy, and in certain special cases, become members of the Academy at least as associates; each of those Art-workmen might properly receive a bronze medal, and the appellation of "Royal Academy Medallist."

That the Art-workmen should be nominated by the Council, and elected by the General Assembly.

That it is not desirable that artists should be required to inscribe themselves as candidates for admission to the honours of the Royal Academy.

That it is not desirable that artists should cease to belong to other Art Societies before they can be admitted to the honours of the Royal Academy, and that in exhibiting their works they should not be restricted to the Royal Academy Exhibition.

That there should be no limit to the age at which an artist is eligible as Art-workman, Associate of the Royal Academy, or Royal Academician.

That the Royal Academicians should be elected from the rank of Associates on the ground of merit alone, and wholly irrespective of any consideration arising from the length of time during which they may have been on the list of Associates of the Royal Academy.

That the non-professional members be elected in the same manner as the Royal Academicians.

That any Associate designed as a candidate for the rank of Royal Academician should be proposed and seconded by Royal Academicians, and his name put to the vote at a General Assembly.

That any artist designed as a candidate for the rank of Associate should be proposed and seconded by Royal Academicians or Associates, and his name put to the vote at a General Assembly.

That in the elections, whether of Royal Academicians or Associates, no person shall be deemed elected who has less than half the votes of the members of the Assembly present. Two-fifths of that Assembly to be deemed requisite for a quorum.

That all voting, whether for the election of Royal Academician, Associate of the Royal Academy, honorary member, or any other person, should be open.

That all elections of Academicians and officers should receive the confirmation of the Sovereign.

B.—FUNDS.

It is not necessary for us to refer to the sum of money derived by the Royal Academy under the will of Mr. Turner, as finally settled under directions of the Court of Chancery; but we must not omit to mention the trusts which will ultimately be imposed on the President and Council of the Academy, by the will of the late Sir Francis Chantrey.

It appears that at a future, time after payment of £300 per annum to the President, and £50 to the Secretary, the remaining income will have to be expended, under the direction of the President and Council, in the purchase of works of Fine Art, in Sculpture and Painting, of the

highest merit executed in Great Britain, such purchases to be made solely with reference to the intrinsic merits of the works, and with an express prohibition against giving any orders or commissions beforehand.

It appears further that the nation has a great interest in the proper execution of these trusts, for the testator expresses full confidence that whenever the collection of the works of Art shall be of sufficient importance, the Government will "provide a suitable and proper building or accommodation for their preservation and exhibition as the property of the nation." It thus appears to us that the President and Council of the Royal Academy will, in fact, be trustees for the public in the purchase of these works, and in the custody of them. It seems, further, that the funds derived from the Chantrey fund will not be available for the employment of artists on commissions, or in the decoration of buildings. The merits of the work must be ascertained before it can be purchased by the President and Council of the Academy for the future benefit of the nation.

It seems obvious from the restrictions imposed in this bequest that, except as regards the sum payable to the President and Secretary, it will in no way relieve the funds of the Academy, whatever may be its value in encouraging Art, and providing the materials for a future National Museum of British Art.

We have only to add that the annual balance sheet of the accounts of the Academy should be printed and submitted along with the annual report to the General Assembly at the first of the annual meetings.

C.—EXHIBITION.

There is no subject connected with the Academy on which the representations made to us have been more unanimous, or in our own judgment more justly founded, than the complaints of want of adequate space.

The space now available is greatly below the requirements of the Academy, and altogether inferior to what British Art at this time demands. Indeed it is to this want of space rather than to any other cause that we may ascribe a large share of the complaints that have been made. We think that the Exhibition of works of Art has, upon the whole, been fairly conducted, so far as is consistent with the existing rules, and so far as the present space permits, but we think that, in part from the imperfection of those rules, and still more from the utter deficiency of space, cases of grievance and of hardship have undoubtedly arisen. Such, indeed, seems to be the opinion of the leading members of the Academy themselves. When Mr. Frith, who had been himself this year a member of the arranging committee, appeared before us as a witness, he was asked this question:—"I understand you to say that you are strongly impressed with a feeling that unavoidably you must commit acts of injustice, that fault however not being with the arranging committee in any manner, but being due to the scanty space compared with the number of applicants for that space." To this question Mr. Frith answered as follows:—"Yes, I feel that very strongly indeed; but I think this year particularly the space has been fairly distributed. I do not admit that there has been any exceptional injustice done; there is always injustice done for want of space."

We shall proceed in a subsequent part of this report to state the manner in which, according to our judgment, a larger space should be supplied. At present we desire only to state the alteration which, supposing that space to be obtained, should be made in the rules for exhibition. According to the present rule each Academician or Associate is entitled to exhibit eight works of Art as of right. In the opinion of many even of those who possess this privilege it is excessive. It does not seem desirable that any artist, however eminent, should be allowed to exhibit so large a number; and besides the advantage that would ensue from leaving additional space for the works of other artists, it may be presumed that any artist who was restricted to a smaller number of works of Art, would ex-

hibit greater care and pains in the preparation of those works, and render them more perfect than he may sometimes have leisure to do under the present system. It may be added that, according to the evidence which we have received, this excessive privilege is very seldom, if ever, exercised to the full extent.

We also conceive that, considering the large extension which we propose to give to the Associate class, it would not be desirable to extend to them the privilege which the present members now enjoy, of sending a certain number of works of Art, as a right, for exhibition. It is our opinion that they should stand in this respect on the same footing as any other artists. We therefore propose that the Academicians and the now existing Associates should send four works of Art as of right and never more, and that Associates henceforth elected should send no works of Art as of right, and never more than four.

We think there should be an annual exhibition of works of Art, that is, paintings, including water-colour drawings; engravings; architectural designs; and sculpture, including coins, medals, engraved gems, and such works in chasing or carving as may properly be classed under the head of Fine Art.

We may here express our regret that, judging from the evidence of the Presidents of the two Water-colour Societies, there appears to be little disposition on the part of painters in water-colours to seek such a union with the Royal Academy as the importance of their branch of Art, and the peculiar eminence which it has attained in this country, would fully warrant.

That all works sent in for exhibition should be submitted to and selected by the Council.

That three Committees should be nominated by the Council, and elected by the General Assembly, for the arrangement of the works of Art so selected; each committee to consist of two Academicians and an Associate; to act under the supervision and general responsibility of the Council; and to have the advantage of paid professional assistants, if they should be required.

The first of these committees should have the power of arranging the works of painting and engraving, the second the works of sculpture, and the third the works of architecture.

It does not seem to us that any member of the Council should in any case form part of those three committees.

It appears from the evidence that a strong feeling exists among many professional witnesses against the lay members taking part in the selection of works of Art. Whilst we admit the general fairness of this selection as hitherto conducted, we still think that the participation in such a matter of persons who are not artists would be far from unfair or disadvantageous. Pictures exhibited in the Royal Academy are painted for the public, and it must be remembered that the non-professional members would necessarily form a small minority in the Council, and thus the ultimate decision in each case would practically be the result of professional votes, except in special instances where a difference of opinion might exist among the artists themselves.

We must confess that in considering this question of the votes to be given by the members who should form the Council by which works of Art are selected, we cannot conceive any system to be established by which complaints would be prevented. It is impossible but that artists disappointed in the exhibition of their works should sometimes feel their disappointment keenly, and no composition of the Council, whatever it may be, could prevent those complaints from arising. If there are only artists on the Council there will be a cry of professional jealousy; if there are lay members also on the Council there will be a cry of non-professional ignorance. It is, we fear, unavoidable that men inspired by honourable emulation in pursuing the profession in which they have applied themselves should regard as injustice any decision by which the claims of their rivals are preferred to their own.

Besides these points of regulation to which we have

now referred, there are some others which we should desire to put forth in a less positive manner as suggestions. For in this case as in others we feel that if we should be successful in establishing a governing body fully entitled to confidence and likely to prove efficient in action, it would not be wise to limit the deliberations of that body on all points or with undue strictness, but that we should trust to them for the solution of many points of less importance.

Subject to this remark we would desire to suggest these points:

Whether in some cases it might not be interesting to the public, and conducive to the interests of art, that all the works of each artist should be exhibited together whenever practicable.

There is another question on which, as connected with the space available, we would refrain from suggesting any positive rule, but we think that unless in special cases no picture of ordinary size should be exhibited with its base less than two feet, or more than eight feet from the ground.

In the French Fine Arts Exhibition of 1855, and in the International Exhibition of 1862, a very satisfactory effect was produced by exhibiting some of the best works of sculpture in the same gallery with the paintings. It may be a question whether, in some instances, or under some conditions, the same system might not be adopted at the exhibitions of the Royal Academy.

We think it also desirable that rooms should be set apart for the exclusive exhibition of water-colour drawings, engravings, and architectural designs, respectively.

We would also suggest that no work should be exhibited without having the name of the artist, and when it appears desirable, of the subject, legibly inscribed on the frame, in case of a picture or drawing, or, in the case of sculpture, on the shelf or pedestal on which it stands. Although the income from the sale of catalogues would thus be diminished, it is highly probable that many persons would more frequently visit the exhibition, were they relieved from the expenses of buying and the trouble of carrying and consulting a work of which the tendency is continually to increase in size. The convenience of this arrangement has been already appreciated in the National Gallery, the International Exhibition of 1862, and in the principal galleries of the continent.

We regret to hear that a statue exhibited this year has been mutilated by accident or design whilst in the sculpture room. The want of proper space may easily lead to accidents in cleaning or arranging the room, but the effectual protection of works entrusted to the Academy for exhibition is, of course, incumbent on that body, both as a matter of duty and of self-interest.

There is another suggestion which we should desire to make, and which impresses us in a very favourable manner. We think that the charge for admission on common days should be 1s. as heretofore, but that on Mondays it might be raised to a higher sum, and that the exhibition on the other hand should be wholly free on Saturdays. It seems to us that this system, without the risk of too far impairing the funds on which the Academy has mainly to rely, might be attended with great advantage. The Monday, on which a less concourse might be expected, would be regarded as a great boon by persons of advanced years or of delicate health, who would thus avoid the jostling of the crowd. Lovers of art, who desire to study the exhibition with care, would also attach no little value to such an opportunity. On the other hand, the Saturday, on which happily many classes of workmen are now practically allowed the privilege of a half-holiday, would be valuable to them as a day of free admission, and would tend, besides the pleasure which it might afford them, to have the higher advantages of gradually forming and improving their taste in art.

D.—TEACHING.

Notwithstanding the great liberality which the Academy

has shown in its system of gratuitous teaching, the number of eminent pupils who have been trained by it, and the manner in which artists of high distinction have devoted their time and attention to the schools, we are of opinion that the system of teaching hitherto followed in the schools cannot be considered as having been in all respects satisfactory.

In many respects this defect, as well as others, is clearly to be ascribed to want of space. Thus it is want of space, and no other reason, which has caused the schools to be closed at the very period of the year when their opening would be of the greatest importance and value. Supposing sufficient space to be provided, we are clearly of opinion, as indeed the members of the Royal Academy seem themselves to be, that the schools should be open throughout the year, with the exception of such times as may be set apart for vacation.

But besides these defects, for which the Academy is in no degree responsible, there are some others which are shown to be such, as we think, by experience derived in the course of years. We recommend that the present system of instruction, as superintended by the keeper in the antique school, and by visitors alone in the life and painting schools, should be abandoned. We think there should be a general director of the schools, not necessarily a member of the Royal Academy, who should receive a salary sufficient to secure the services of a first-rate teacher.

On the system of visitors there has been a considerable diversity in the evidence that has been laid before us. Some witnesses contend that by the change of visitors from month to month the students are enabled to obtain the views of several men of eminence in succession, and to derive new lights from that very alteration. Others again lament the want of a fixed and positive direction in the course of study. According to the opinion that we have just now expressed, we consider the appointment of a General Director of the Schools absolutely indispensable, and also that there should be competent and well-paid instructors at the head of the different departments under the Director.

We think that whatever advantages have hitherto attended the system of visitors, might in a great measure be still secured by the appointment of a sub-committee of the Council, which should visit the schools from time to time, reporting to the Council as to the progress that had been made, and making any suggestions that they might consider requisite.

We think that all candidates for admission into the schools of the Academy should be required to pass an examination as a test of their general education, the standard of such general education to be fixed from time to time by the Council. We would recommend that a third (that is the highest) class certificate of the schools at South Kensington in connection with the Department of Science and Art should be accepted as a sufficient Art qualification for admission into the schools of the Academy.

Considering the largely increased advantages which the students would enjoy under the schools as remodelled in the manner we propose, we do not think it unreasonable that their instruction should no longer be entirely gratuitous, but that on the contrary some moderate fees **should be required**. We should desire, however, to confine those fees to narrow limits, so as not unduly to press on persons of limited means.

But although we propose that the teaching in the schools should not as heretofore be gratuitous, we think it desirable for the assistance of students with limited means that scholarships or exhibitions should be established to be awarded to candidates who may show the greatest proficiency in the preliminary examinations, or display the largest amount of knowledge and the most decided progress in art at the end of the first year of their course, or at any other period that the Council may from time to time appoint. It should be an indispensable qualification

for such exhibitions that the candidates should satisfy the Council that without this pecuniary aid they could not pursue their studies in the schools of the Academy.

We recommend that the Council should have power to grant admission into the schools to honorary students at an increased rate of payment without requiring them to comply with the preliminary regulations prescribed for ordinary students; such privilege of admission being designed for established artists and others who may desire to take advantage of the teaching of the Academy without the necessity of undergoing its test-examinations.

We think that there should be periodical examinations of the students, to test their progress in Art in the schools of the Academy.

That the works of the students should be annually exhibited at such time of the year as might be considered most suitable, and that this exhibition of their works should be duly notified to the public, and that there should be a public distribution of all the Academy prizes.

That chemistry, as applicable to art, should be taught, and that there should be a chemist and a laboratory attached to the Academy—colours and vehicles for painting being submitted to practical tests, and variously and publicly exposed to the action of the atmosphere, light, and time; and that the results should be carefully registered, made generally accessible, and published in the annual report of the proceedings of the Academy.

It cannot be said, as we conceive, that the present system of travelling studentship, as carried out by the Academy, has worked well, the number being far too small to have produced any practical effect. It appears to us that instead of these a certain number of Art-fellowships, so far as the funds of the Academy may properly allow, should be annually competed for, and that the examinations should be conducted by the Council, assisted by the Director of the Schools. That these fellowships should be held for a term of years, the object being to assist students in the study and practice of Art at home and abroad; but that all fellows should be required annually, during the tenure of their fellowships, to submit for the inspection and satisfaction of the Council, one or more specimen of their work in the branch of Art which they cultivate.

As connected with this subject, we would desire to call attention to the views of Mr. Gibson, as embodied in a letter which is cited by Sir Charles Eastlake in his evidence, and which had already been produced by our chairman, on the 8th of June, 1860, in the House of Lords. Mr. Gibson has pointed out that all the principal nations in Europe, except England, send pensioned students to Rome, to study sculpture, painting and architecture. The French Academy and the Naples Academy, he says, have professors to overlook the students; all other students are watched by their ministers. England, on the contrary, has neither any such branch academy nor yet the authority that would be exercised by any recognised diplomatic agent at Rome. The opinions which we have heard from other witnesses are by no means unanimous upon this subject. It might, however, seem desirable that the Royal Academy should, its funds permitting, establish a small branch academy at Rome, so far as regards, at least, the permanent residence of a professor, for a fixed term of years and at a sufficient salary, who should have a general control of such travelling students of the Academy as might at any time desire to pursue their studies in that city, where the concourse of artists for study it certainly much greater than in any other city of the world.

The system of teaching that prevails in France seems to us well worthy of consideration, on several points, by artists in this country.

E.—CHARITIES.

In the event of the Associate class being largely increased, we think that, considering the great call on the funds of the Academy for teaching and other public purposes, it could scarcely be held as feasible that future Associates, or their widows, should be entitled to pensions.

In any case, however, all existing Associates should retain precisely the same rights and privileges in that respect as they enjoy at present.

F.—BUILDINGS.

On a careful consideration of the statements which we have heard, and the documents which have been laid before us, we have come to the clear conclusion that the Royal Academy have no legal, but they have a moral, claim to apartments at the public expense.

The present space at the disposal of the Academy in Trafalgar-square is not only wholly inadequate, according to the judgment we have already expressed, but its tenure has been regarded as uncertain. This uncertainty of tenure and the necessity of being prepared for possible contingencies have led to an accumulation fund amounting to £140,000, a very large proportion of which might otherwise have been expended in the promotion of Art. For the same reason, probably, it appears in evidence that while the average income of the last three years amounts to £13,272, the average expenditure for the same period has amounted to no more than £8,063, showing an average surplus of £5,209. It is plain, therefore, that for the interests of Art, and for the full development of all the resources of the Academy, it would be desirable that this state of uncertainty should cease, and that the position of the Academy should be well and definitely secured.

It is further to be observed that it is only by the grant of apartments, whether permanent or temporary, to the Royal Academicians that the public acquire any right of control and jurisdiction in their affairs. If we suppose the Academy, under its Instrument, to provide a building of its own at his own charge, we cannot see how the public could claim any right of interfering with its proceedings any more than with those of any other private corporation. It is therefore by the grant of apartments adequate to the requirements of the Royal Academy, and to the claims of British Art, that the Government acquire the right of proposing to the Academy such rules and regulations as they may deem expedient, and such as in our preceding recommendations we have shown to be in our judgment requisite.

To provide satisfactory and sufficient accommodation for the Royal Academy has been the anxious aim of several successive governments. As may be seen by the evidence before us, there was an arrangement set on foot by the Government of the Earl of Derby, under which the Academy undertook to construct at their own charge a new edifice in Burlington Gardens, the grant of that site being so important as to secure to the Government at the same time its due share of weight or control in the Academy. That arrangement, however, was not confirmed by the Administration which succeeded, and the question comes before us as still altogether undecided. Meanwhile, however, the difficulties arising from want of space continue to increase from year to year, and we think it altogether beyond question that whatever arrangement may be made should be effected with the least possible delay.

It has been found impossible for us to consider this question without at the same time reviewing the position of the National Gallery. It seems to be generally admitted that the portion of the building in Trafalgar-square now occupied by the National Gallery is insufficient for the reception of the public collection of pictures. That collection may be expected to increase, as it is increasing from year to year, and not to consist merely of a fixed or nearly fixed number of works for exhibition, as in the case in the Royal Academy.

Even if the space now occupied by the Royal Academy were given up to the National Gallery, the remedy would be only of a temporary kind, as the national collection of pictures may be expected to outgrow in a very few years the space available in the entire building.

To raise upon the present site a National Gallery worthy of the nation, and of the large accessions which in the

course of years may be expected, it would be found requisite to obtain possession of the ground occupied by the barracks, the baths, and the workhouse in the rear, so that a new and fire-proof gallery should be constructed. It is commonly stated that, although this scheme was sanctioned by the Select Committee of the House of Commons, in 1848, and by the Royal Commission, in 1857, considerable practical difficulties, as well as a very large expense, would attend that proposal.

Under these circumstances, we think it would be desirable that the Government should undertake the construction of a new National Gallery, either on its present site, if it could be thus enlarged, or at Burlington House.

On this point of site, as applied to the new National Gallery, we forbear, as beyond our province, from giving any positive opinion, but we are clearly convinced that if, for the reasons we have stated, the National Gallery should be re-constructed on some other site, with a view solely to its own benefit and advantage, in such a case no less benefit and advantage might be conferred on the Royal Academy. We think that in such a case the whole of the present building in Trafalgar-square should be handed over to the Royal Academy for their use, subject to such conditions and arrangements as the Government of the day might determine.

It may be worthy of consideration whether, amongst these conditions, the architectural improvement of the present front, and its better adaptation to what the late Sir Robert Peel once termed the finest site in Europe might not be contemplated.

It was stated by Sir Charles Eastlake, and by other distinguished members of the Royal Academy, that although in 1859 they did not object, and might not object, if again proposed to them, to the site of Burlington-gardens, which they consider advantageous, they considered their present site as still preferable. No other site could certainly be selected that would invite so large a concourse of visitors, or be convenient to so many classes of persons. If the entire building in Trafalgar-square were given up to the Royal Academy, the existing accommodation might be more than doubled, and the Royal Academy would then possess sufficient space to enable it to carry out the high objects that are set before it.

Such a grant on the part of the nation, accompanied by a Royal Charter, and guarded by such conditions as we have here sketched out, would, we think, be found to work most beneficially.

The conditions and rules which we have indicated as essential would come to the Academicians accompanied by the boon of a vast increase of space and a greater fixity of tenure. We think, therefore, that the public would have a right to expect, on these terms, a ready and cheerful concurrence on the part of that distinguished body in these measures of amendment which we have proposed, and an harmonious working together of its members, old and new, towards their combined and noble object—the promotion and development of Art.

FRAUDULENT ASSUMPTION OF EXHIBITION AWARDS.

The efforts of the Committee formed at a meeting held at the Society's House, on the 18th June, have resulted in the passing of the following

ACT TO PREVENT FALSE REPRESENTATIONS AS TO GRANTS OF MEDALS OR CERTIFICATES MADE BY THE COMMISSIONERS FOR THE EXHIBITIONS OF 1851 AND 1862.

Whereas it is expedient to prevent false representations with respect to grants of medals and certificates by the Commissioners for the Exhibition of 1851 and the Commissioners for the Exhibition of 1862: Be it enacted by the Queen's most Excellent Majesty, by and with the

advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

I. If any trader commits any of the offences following; that is to say,

1. Falsely represents that he has obtained a medal or certificate from the Exhibition Commissioners in respect of any article or process for which a medal or certificate has been awarded by the Commissioners;
2. Falsely represents (knowing such representation to be false) that any other trader has obtained a medal or certificate from the Exhibition Commissioners;
3. Falsely represents (knowing such representation to be false) that any article sold or exposed for sale has been made by, or by any process invented by, a person who has obtained in respect of such article or process a medal or certificate from the Exhibition Commissioners;

He shall incur the following penalties; that is to say,

1. For the first offence he shall forfeit to her Majesty a sum not exceeding five pounds;
2. For any subsequent offence he shall forfeit to her Majesty a sum not exceeding twenty pounds, or be imprisoned for a period not exceeding six months.

II. In proceedings under this Act it shall not be necessary to prove that any person has sustained damage by the false representations of the defendant. It shall not be necessary in any proceedings under this Act to set out any copy or *fac-simile* of any medal or certificate.

III. For the purposes of this Act "The Exhibition Commissioners" shall mean the Commissioners for the Exhibition of 1851 and the Commissioners for the Exhibition of 1862, or either of such bodies of Commissioners. The term "Defendant" shall mean any person against whom proceedings may be taken under this Act.

IV. Offences under this Act may be prosecuted summarily in England and Ireland before two Justices; as to England, in manner by an Act passed in the sessions holden in the eleven and twelfth years of the reign of her Majesty Queen Victoria, chapter forty-three, intituled, "An Act to facilitate the performance of the Duties of Justices of the Peace out of Sessions within England and Wales with respect to summary Convictions and Orders," or any Act amending the same; as to Ireland, in manner directed by the Act passed in the session holden in the fourteenth and fifteenth years of the reign of her Majesty Queen Victoria, intituled "An Act to consolidate and amend the Acts regulating the Proceedings in Petty Sessions, and the duties of the Justices of the Peace out of Quarter Sessions in Ireland," or any Act amending the same.

In Scotland, an offence against this Act may be prosecuted summarily at the instance of the Procurator Fiscal before any Sheriff or Sheriff Substitute, or before any Two Justices of the County, or before the Magistrates or any Police Magistrate of the Burgh in which the offence was committed.

V. No provision of this Act shall take away, diminish, or prejudicially affect any suit, process, proceeding, right, or remedy which any person may be entitled to at law, in equity, or otherwise; nor exempt or excuse any person from answering or making discovery upon examination as a witness, or upon interrogatories or otherwise, in any suit or other civil proceeding: provided always, that no evidence, statement, or discovery which any person shall be compelled to give or make shall be admissible in evidence against such person in support of an indictment for a misdemeanor at common law or otherwise, or of any proceeding under the provisions of this Act.

VI. This Act may be cited for all purposes as "The Exhibition Medals Act, 1863."

PORTRAIT MUSEUM.

Photography stands in the foremost rank as a great civiliser; it enters into every grade of society, from the Queen on the throne to the peasant in his humble cottage; and it affords to those engaged in commerce a cheap and faithful means of distributing exact copies of their productions for the benefit of all. The most intricate mechanism is copied as easily as the most simple; the artist avails himself of its wondrous powers, as does also the architect; and the lecturer employs it with the magic lantern as the means of showing instantly to his audience places and things that, with the most eloquent tongue, he would be utterly unable to describe.

We have used it selfishly to supply our own wants, and oftentimes to gratify our own vanities. But we may, if we will, use it for a purpose far more noble than any it has yet been applied to. By its aid we may raise a monument to all men and women that are great and good, and one that shall be more lasting and far more truthful than the cold and unimpassioned marble; in fact, we can secure the perfect image of the human being instinct with life, and so preserve it that it shall be a monument for all time to his or her memory, that will afford to generations yet unborn the high gratification of looking upon those who have lived centuries before themselves, and who, by their patriotism and genius have helped to make the world what it is. What would we not give to possess faithful portraits of the illustrious dead? that we might look upon them face to face as they walked the earth. Had the art been known in the days of Socrates, Dante, or Shakspeare, we might have possessed photographs of these and thousands of others; but as we cannot raise the images of the mighty dead, we may preserve for all time the illustrious living.

It will be asked how can all this be secured? Very easily, as will be seen from the following suggestion of Mr. Maclachlan:—Photographs, no doubt, at present are not to be depended upon as lasting memorials, but the original negatives are as lasting as the material (glass) upon which they are taken. The plan proposed is to secure the negative plates of great men, and have them placed in a museum for safe keeping, properly authenticated, attested, and registered by the mayor or other authority of the place where they were taken; and, to provide against accidents, it is proposed to secure in every instance, three plates of the same individual, which can easily be done, as the original one can be always reproduced at pleasure.

The object of securing three plates is, that one may be kept within the institution, and the other two lent, at the discretion of the authorities in charge; for instance, to any author of eminence for book illustration; and by that means the memories and images of those who have been great and passed away would be transmitted faithfully to all posterity. In almost every instance there would be several portraits of the same individual in different museums in the country, affording a still greater security for their permanent preservation. All local celebrities might be taken in their own towns and deposited in the museums of their respective localities, and should a time arrive when their genius became acknowledged by the world, then they might claim a shrine in our great National Museum. There would necessarily be a few simple rules to guide us in the selection of the proper kind of plates to deposit, which it is needless to enter into here.

Portraits can be taken so small that thousands of them would not occupy one square foot, and at the same time could be enlarged to life or any other size at pleasure.

As to cost:—Mr. Maclachlan offers his best services in photographing any persons who may be deemed worthy, esteeming it an honour, and he believes his brothers in the art would assist as freely as himself.

The space required for the due preservation of these negatives is very small. As many as five or six thousand could easily be stowed, ready for reference at all times, in a couple of presses of ordinary size.

PETROLEUM GAS.

The following report is from Mr. George Bower, of Huntingdonshire, gas contractor to the Duke of Marlborough, the Earl of Shrewsbury, Viscount Hill, &c. :—

Having had a large quantity of crude petroleum oil placed at my disposal by Mr. A. S. Macrae, of Liverpool, for the purpose of ascertaining its gas yielding properties, and also whether it could be used along with common coal, wood, or peat, for the purpose of enriching the gases made from these substances, so as to compete with boghead, which is the material now generally used, I am now enabled to make the following observations :—

Before giving the results of the experiments, I think it right to describe the apparatus which I have constructed purposely for these experiments.

The retort is double-acting, four feet long, and of this shape in section *g*, and known as the Fitzmaurice retort, the principle being that of the regenerative system, as practised by Malam some 40 years ago, but with this difference in construction—Malam had two retorts, a large and a small one, set one over the other, the coal being placed in the large retort in the bottom, the vapours passed through the smaller one at the top, and those which were not permanently gaseous were made so by their passage through this highly-heated surface.

Although by this process the yield of gas was increased per ton of coals distilled, yet it was at the cost of both the illuminating power, wear and tear, and fuel—in short, the cost was greater than the value of the larger product, and so did not obtain extensive use. This system was applied to coal gas, which of itself has only a moderately illuminating power; and though some of the tarry vapours were arrested, yet the second application of heat to the already formed gas deteriorated its illuminating properties, by causing it to deposit carbon, and thus more than counterbalanced the advantage of an increased yield. The evolution of gas from coal in an ordinary retort is a slow and gradual operation, the outside being first acted upon; and hence it requires six hours to obtain the whole of the gas from $1\frac{1}{2}$ cwt. of coal, with which the generality of retorts are charged; but with oil the vapour is evolved so rapidly, that without a considerable surface for it to pass over, a very great portion of it would be condensed into a thin black tarry oil; hence the advantage of the Fitzmaurice retort, which is also equally adapted for coal, wood, or peat, and the gases from which can be enriched with oil.

It has been a common practice in making gas from oil, to fill retorts with coke, broken bricks, or any material which will give surface, and the oil has been dropped or run into them, or made to traverse through them; but this seems to be a very effective way of absorbing the carbon, to which all gas owes its luminiferous property. The result of a great number of experiments has made me determine that a high heat with a large surface is the very worst plan that can be adopted for making gas from oil; but that in order to get the best results, a moderate heat—dull cherry red by daylight—and the double form of retort without anything in it, give the best results; not for volume of gas, but for quantity of light; in other words, there is more light from 80 cubic feet of gas produced in accordance with the latter plan from the gallon of oil, than from 160 feet produced according to the former made from the same quantity.

The test of the apparatus is the same as for ordinary coal, excepting that no purifier is required; but the condenser has double the surface of that for coal, on account of the rapidity with which the gas is evolved. A meter to measure the quantity of gas produced, and a gas-holder, complete the apparatus.

Two qualities of oil were supplied to me by Mr. Macrae, one of specific gravity .805, the other .910; water being 1.

It may be stated that the higher the specific gravity

of the oil the better the yield of gas, and the heavier it is the greater the heat required to get the best results.

I now proceed to consider the cost of gas from petroleum oil, and how far it may be used for this purpose.

The present price of the lighter of the two oils is about 1s. per gallon. I will dismiss the heavy oil, and confine my remarks to that of specific gravity .805, as it is, upon the whole, more economical to use than the other.

With the present prices of oil the gas cannot be other than very costly, when compared by volume alone against ordinary coal gas; but when all the collateral advantages are taken into consideration, and a comparison instituted upon the basis of quantity of light from equal volumes, then the contrast is not so marked.

The advantages which oil gas has over coal *are in the* fact, that it requires no purification, being absolutely free from impurities; hence it may be used in the most sumptuously decorated saloon, library, or picture gallery, without the slightest fear of its injuring anything whatever; the process of making the gas is much more simple, the apparatus to produce an equal quantity of light as that from coal is much less costly, and consequently the wear and tear is also less; and not only is a less quantity required for an equal amount of light, but the heat is considerably less than from coal gas.

If the comparison be made as between coal and oil, coal undoubtedly makes the cheaper light by far; but, if it be instituted as between tallow and oil, as ordinarily burnt in lamps, then the light from petroleum oil gas is very much less costly than from either of them.

One ton of oil will produce as much gas as will give the light of that produced from good Newcastle coal; thus where carriage forms the chief item of the cost of the material at its destination, oil may, in such a case, enter into favourable competition with coal; or, where the first consideration is purity, and to have a gas which, light for light, shall be more brilliant and powerful than the oil burnt in the solar and moderator lamps, then not only is petroleum superior, but also of considerably less cost.

His Royal Highness the late Prince Consort took great interest in portable gas, and I have in my possession a vase which he had made specially for his own use to contain compressed oil gas. One foot of oil gas will give the light of three feet of ordinary coal gas, and though gas, under very high pressure, loses some of its luminous qualities, yet it may be condensed at fifteen atmospheres, and thus become perfectly portable; so that beginning with a gas of three or four times the illuminating power of common coal gas, and condensing a given volume into a fifteenth of its bulk, there is in this fact alone a large field for the use of oil gas for the lighting of railway trains, ships, private carriages, and country houses, where it may not be feasible or policy to erect small gasworks for the supply of gas at ordinary pressures. For instance, the Albert vase already alluded to is of a capacity equal to half a cubic foot, and if charged with oil gas compressed to fifteen atmospheres, it will then deliver seven feet, and as this is, to begin with, three times more powerful than common gas, its effect will be equal to twenty-one feet, and will give a light equal to six or eight candles for seven hours.

The daily cost of petroleum oil gas, when made to supply one hundred lights burning for six hours, each light being equal to eight candles, is as follows :—

15 gallons of oil, 1s	0 15 0
Coke to heat the retorts, 3 cwt., 1s.	0 3 0
Labour—part of a lad or man's time	0 1 6
Wear and tear	0 0 9
Interest on capital	0 0 4
Fund to maintain plant in perpetuity	0 0 6

Net cost of 1,200 cubic feet £1 1 1

This is about five times what coal gas would cost made on the same scale; but as the illuminating qualities of the

1,200 cubic feet are equal to about 3,500 of ordinary coal gas, the oil does not compare very unfavourably when everything is taken into consideration, so that if the gas be required only for lighting purposes, and not for cooking or heating (for which it is totally inapplicable), then there are very many who will doubtless prefer paying a high price for oil gas, in order to get a light which is absolutely pure, and which, though not nearly so cheap as ordinary coal gas, is nevertheless infinitely cheaper than oil, tallow, or wax, as ordinarily burnt, and without their inconveniences.

The supply of oil in Pennsylvania and Canada, in Moldavia and Wallachia, is practically exhaustless; and as the means of transport to the shipping ports are increased, so will probably the price be reduced, though every day almost is adding a new product obtainable from it, so that it may be some time before the price will be materially reduced.

ASSOCIATION FOR THE PREVENTION OF STEAM BOILER EXPLOSIONS, MANCHESTER.

At the meeting of the Executive Committee of this Association, May 26th, 1863, Mr. L. E. Fletcher, chief engineer, presented his monthly report, of which the following is an abstract:—

During the past month there have been examined 257 engines—1 specially; 420 boilers—10 specially, 11 internally, 77 thoroughly, and 322 externally, in addition to which one of these boilers has been tested by hydraulic pressure. The following defects have been found in the boilers examined:—Fracture, 8 (3 dangerous); corrosion, 22; safety-valves out of order, 1; water-gauges ditto, 11; pressure gauges ditto, 6; feed apparatus ditto, 2; blow-out apparatus ditto, 3; fusible plugs ditto, 1; furnaces out of shape, 2 (1 dangerous); over pressure, 2 (both dangerous); blistered plates, 2 (1 dangerous); total, 60 (7 dangerous). Boilers without glass water gauges, 2; without pressure gauges, 5; without blow-out apparatus, 17; without back pressure valves, 34.

The occurrence of explosions during the past few months has been so frequent that the reports of their details have prevented any notice of the defects found to exist in the boilers under inspection, further than that given in the monthly list as above; and, therefore, the present opportunity may be taken for some slight amplification.

Serious cases of corrosion continue to be met with at the bottom of those boilers which are set upon brick mid-feathers, running underneath them from one end to the other along the centre or keel line. In this mode of setting, any water which may fall upon the boiler, or leak from the seams, trickles down the shell, and settles on the top of the mid-feather, in contact with the plates. Also where damp exists in the flues, it easily rises through the mid-feather and reaches the boiler. Corrosion may be going on along the centre of the mid-feather and not be visible at the sides, and thus pass undetected even on careful examination—several instances of which have recently been met with.

In one case, a boiler 10 feet 5 inches in diameter, and of plates seven-sixteenths thick, was found, upon the removal of the brickwork, to be deeply channelled for a width of six inches along the bottom at the centre of the seating, no indication of which was given at the sides of the wall, nor was it detected by hammering internally, but remained unknown until the removal of the brickwork. In another boiler, the shell of which was 8 feet 2 inches in diameter, and three-eighths in thickness, the plates were found to be channelled longitudinally along the centre of the mid-feather for a width of eight inches. The seating was fifteen inches wide, and the channel died out at three inches from the outside, thus giving no external sign. In a third boiler, the flues of which were damp, the whole of the plates in contact with the mid-feather were found to

be corroded, and as much as a quarter of an inch in thickness eaten away. Other instances might be adduced, but the character of the injury is so similar in each case that it would be tedious. Those already given will show the grounds upon which the following recommendations are made:—

First: Wherever it is practicable to do so, dispense with mid-feathers altogether, and substitute what are termed two side walls for them. Second: In those cases where the small size of the boiler forbids this, make the bearing surface of the mid-feather wall as narrow as possible. Third: Any that must be retained in use, should, in preparation for annual "thorough" inspection, be removed—at least where in contact with the transverse seams of rivets—in order to admit of complete examination.

Further cases of corrosion may be mentioned occurring to other boilers than those set upon mid-feathers.

A tubular boiler, without any external flues, was found so deeply channelled at the bottom of the shell at the transverse seams of rivets, that the plates were reduced to the thickness of a sheet of paper, and a hole knocked through them in sounding their strength with a hammer. A second boiler, of ordinary double furnace, internally-fired construction, was so eaten away by corrosion at the first bottom plate from the front, that, as in the preceding case, a hole was made on examination; the corrosion being due to leakage from the glass water gauges and mudhole joint, as well as to the practice of slacking the ashes while lying at the front of the boiler. In another case, where the cross wall below the front end of the boiler was as much as two feet in thickness, the plates were corroded nearly through. So great a thickness as two feet for these walls is quite unnecessary, as well as objectionable, and it is recommended that they should be removed periodically for the examination of the plates.

Several cases have been met with during the past month of injury occurring to externally-fired boilers at the parts immediately over the furnace, the plates bulging, cracking at the rivet holes, and the seams staining and leaking. One of our members has contributed a sample plate cut out from a boiler of this class, which is bulged down at the solid, and cracked completely through, although the boiler was amply supplied with water; this plate is a fair sample of the danger of the externally-fired class.

A safety-valve, the spindle of which passed through a bushed hole in the cover, was found to fit so tight as to be quite fast. This bush had been fitted to prevent the inconvenience arising from the escape of steam, under the impression that a safety-valve was unnecessary, as long as the boiler was provided with a steam pressure gauge.

A report relative to explosion No. 9, recorded in the last month's abstract, has since been received from an engineer who examined the boiler shortly after the explosion had occurred, and from which it appears that the boiler, which was of plain cylindrical egg-ended construction, and externally fired, had rent—as is so constantly found to be the case in this class—at the transverse seams over the fire, the shell dividing into two parts, which were thrown some distance asunder.

One boiler only, and which was not under the inspection of this association, has been reported to have exploded during the last month; the explosion occurring at too great a distance from Manchester to admit of a personal investigation. Should any particulars of interest be ascertained, they will be communicated in the next monthly report. The explosion will rank as No. 10 in this year's list.

LIGHTING THE BRITISH MUSEUM BY GAS.

The following is extracted from Professor Levi's "Annals of British Legislation":—

Several questions were put by the Trustees of the British Museum to Mr. Braidwood, the Superintendent of

the London fire-engine department, respecting the illumination of that building. To the question whether the British Museum could be safely lighted up in the evenings, he said, "You do not state whether the proposed lighting is to be effected by candles, oil, or gas. Lighting might be effected with candles or oil with comparative safety under good management, but if the building is to be lighted by gas the question assumes a very different aspect. In the first place, the use of gas desiccates everything within its reach, especially all ceilings, roofs, &c., which are placed above the lights, thus rendering them much more inflammable than they otherwise would be, making what would otherwise be a trifling fire a serious conflagration. In the second place, the heat and fumes evolved by the combustion of gas are most decidedly against the preservation of any vegetable or animal substances, and tend to discolour stone, marble, &c., in such a manner that it is very difficult to restore the original colour. This is stated on the supposition that the Museum is to be lighted by single argand lights, but if what are called 'sun' burners are used the risk will be immensely increased. The sun burner consumes a very large quantity of gas at one point, causing an intense degree of heat, which has to be carried off by pipes, a process difficult of performance with perfect safety in a building constructed with so much inflammable material as the Museum. Several fires have been occasioned by their use. I would therefore consider these lights as totally inadmissible in the British Museum. Independent of these risks is the danger of explosion to which every place where gas is used is liable, notwithstanding the accuracy with which the fittings may be executed, and it must not be forgotten that the more substantial the building is, so much more destructive is the explosion." To the second question, "Do you consider that it would render extensive alterations in the building necessary?" Mr. Braidwood answered, "It does not appear to me that extensive alterations would be necessary for the introduction of gas, but the floors, ceilings, and walls would be very much cut about, and a heavy expense incurred." And to the third, "Do you consider the risk, supposing there is any, equal in all departments?" he answered, "I believe the risk to be such that on no consideration should a building intended to last for ages, and containing such invaluable property as the British Museum, be subjected to it. The relative risk of the different departments will vary according to the structure and contents of each. Thus those parts which are most solidly constructed and of the heaviest materials will suffer most in case of an explosion, and those departments where there is a greater quantity of combustible materials in the structure and contents will, when such materials are sufficiently dried and prepared for burning, suffer more severely from any trifling accident which may take place, and which but for such desiccation of the materials around would have passed off without much damage or observation. I have always disliked the small hot-water pipes used to heat the British Museum; although they are very carefully placed in slate troughs, &c., several trifling accidents have occurred from them. If such accidents were to occur after the surrounding timber had been dried up by gas for some years, the result might be much more serious. I would also beg to add that two firemen would be incapable of giving the necessary attention if the Museum were lighted by gas, and a considerable number of additional firemen must be employed."

In support of this opinion, Mr. Braidwood stated that Mr. Warrington, the chief chemical officer at the Apothecaries' Hall, agreed with him as to the destructive tendencies of the vapour evolved in the burning of gas, and was ready to give the chemical reasons if called upon. A similar opinion was elicited from Mr. Sydney Smirke, R.A., Architect to the British Museum, in consequence of which the Trustees, on the 13th April, 1861, came to a unanimous opinion that they would not be justified in allowing the collections of the British Museum to be open at any hour which would require gas light.

EXAMINATION PAPERS, 1863.

The following are the Examination Papers set in the various subjects at the Society's Final Examinations, held in May last :—

(Continued from page 603.)

ASTRONOMY.

THREE HOURS ALLOWED.

1. Define the axis of the earth and that of the heavens, also the poles of the earth and those of the heavens.
2. Define the equator of the earth and that of the heavens, and state why the latter is called the equinoctial.
3. What is the ecliptic? is it parallel to or inclined to the equinoctial?
4. What is the breadth of the zodiac and where is it situated?
5. What are the colures, and where are they situated?
6. Define longitude on the earth and in the heavens.
7. Define right ascension and declination of a heavenly body.
8. Define latitude on the earth and in the heavens, and state the latitude of the sun.
9. What is the orbit of a planet, and define the plane in which a planet moves.
10. What is the inclination of the orbit of a planet, and define the nodes of a planet.
11. What points in a planet's orbit are called Apogee and Perigee, and define the line of the apsides.
12. What is the difference between an apparent solar day and a mean solar day?
13. Define a Sidereal day and a Sidereal year.
14. What is a solar or tropical year?
15. How can the mean distance of the sun from the earth be determined?
16. The parallax of the sun has been considered as $8''.58$; from observations recently made, it seems to be more nearly $8''.9$. If the latter be correct, what change will have to be made in the sun's mean distance from the earth?
17. State in general terms the method of determining right ascension and declination of a heavenly body.
18. Explain the principles of a lunar eclipse, and state why we have not a lunar eclipse at every full moon.
19. What are the errors of a Transit Instrument? and deduce their numerical corrections.
20. Explain the aberration of light, and state its effect on a star's position.
21. Given, the apparent zenith distance of Mars' south limb :—
As observed at Greenwich, $71^{\circ} 33' 21''.5$.
The correction for refraction, $2' 54''.5$.
The correction for parallax, $10''.5$.
The latitude of Greenwich, $51^{\circ} 28' 39''.0$.
And the semi-diameter of the planet, $5''.7$.
What is the North Polar distance of the planet?

CHEMISTRY.

THREE HOURS ALLOWED.

1. What weight of air is required for the complete combustion of a pound of carbon? What weight is required for the combustion of a pound of hydrogen?
2. What volume of hydrogen is required to form a cubic foot of each of the following gases or vapours, viz., hydrochloric acid, water, and ammonia?
3. Describe the preparation and chief properties of sulphuretted hydrogen. Explain, by an equation, the reaction by which the gas is liberated in the action of hydrochloric acid on sulphide of antimony.
4. How is iodine prepared? How separated from chlorine? How estimated quantitatively?
5. Describe the action of nitric acid at various degrees

of concentration on the following substances, viz., carbonate of baryta, metallic tin, and metallic zinc.

6. Describe the structure and composition of a flame of coal gas. By what contrivances can marsh gas be made to burn with emission of bright light, like that of olefiant gas?

SECOND DIVISION.

1. What is the action of hydrochloric acid on the following metals, viz., antimony, tin, bismuth, lead? How does sulphuric acid act upon these metals?

2. Describe the composition and properties of some of the most important alloys of copper.

3. What would you do with a black precipitate, formed by sulphuretted hydrogen in a strongly acid solution, in order to ascertain its composition?

4. How is metallic aluminium prepared? Describe its characters, also those of its salts.

5. How is lime distinguished from baryta? How are the two bodies separated quantitatively?

6. Describe the manufacture of soda. What are its chief impurities, and how are they detected?

THIRD DIVISION.

1. What are the chief products besides alcohol which are formed in vinous fermentation?

2. How is glycerine best obtained in a state of purity? Give its formula and its chief reactions.

3. How is gun cotton prepared for photographic use? What differences of its properties can be produced by modifications in the concentration of the acid?

4. How is benzole obtained from benzoic acid; how from coal tar? What is its boiling point? What is the action of nitric acid upon it?

5. How is lactic acid prepared from sugar? Give its formula and chief reactions.

6. Describe and explain Liebig's combustion apparatus. How do you calculate the formula of an organic body from the results of a combustion?

ANIMAL PHYSIOLOGY IN RELATION TO HEALTH.

THREE HOURS ALLOWED.

1. Describe the structure, general and microscopic, of a living human canine tooth. Explain how a tooth is formed, how it grows and lives, what are the uses of the teeth, and how their decay and loss may affect the animal economy.

2. State in general terms the chemical composition of milk, beer, wine, alcohol, coffee, and tea; and also, so far as is known, their respective actions as articles of food.

3. Describe the source and chemical nature of the gastric juice. When is it formed; and what circumstances may favour, and what impair, its healthy formation and action?

4. Mention the ingredients and composition of ordinarily pure atmospheric air, and the changes it undergoes in respiration. Afterwards give what information you can as to the particular change which makes air so respired less and less fit for further breathing—the rate at which it becomes deteriorated in one and successive respirations, and the point at which it becomes incapable of supporting the life of a warm-blooded creature.

5. Give some examples of the immediate and remote consequences to the human economy of breathing good or bad air.

6. Explain generally the function of excretion; the fundamental characters of the organs by which it is performed, the nature of the process itself, and its purpose in living animals or plants.

Illustrate the subject anatomically and physiologically, by special reference to the excretory apparatus and excretions of the skin.

BOTANY.

THREE HOURS ALLOWED.

The Candidate is expected to answer correctly six questions in Section I. and eight questions in Section II.; Nos. 11 and 12 of the latter each standing for one answer.

SECTION I.—(VEGETABLE PHYSIOLOGY.)

1. Describe the mode of origin and principal modifications of the *duct*.

2. Describe, in general terms, in order, from the centre to the circumference, the *Systems* and *Tissues* of which they are composed, laid bare in a transverse section of the stem of an *Oak*.

3. Out of what vital processes does the *liberation* of carbonic acid gas arise?

4. Name three plants affording *milk-sap* for economic use. In what tissue and in which part of the plant does it usually occur?

5. What is the function of the *Stigma*?

6. What is *Dry-rot*? How does it affect timber? What circumstances *counteract* and what *favour* it?

7. Upon what does the success of a *graft* depend?

8. What is the function of the *root*?

SECTION II.—(PRACTICAL BOTANY.)

1. Name the two principal types of *vestivation*.

2. State the difference between *Spike*, *Spadix*, and *Catkin*.

3. What is meant by *Cohesion* and *Adhesion*?

4. What is the *Connective*?

5. Distinguish *Dipsacæ* from *Compositæ*.

6. Describe the *fruit* of *Umbelliferae*, and its principal modifications.

7. Give the diagnostic characters of the natural order *Cruciferae*.

8. Describe the structure of the *Ovary*, and of the *fruit* of *Quercus* and *Corylus*.

9. How does *Rye* differ from *Barley*?

10. Give the natural orders of the plants marked A, B, C, D, with reasons for your opinion.

11 and 12. Describe the two plants now placed before you strictly according to the form given in "Descriptive Botany," chap. vii.*

(To be continued.)

Home Correspondence.

RESIDENCES OF CELEBRATED MEN.

SIR,—With regard to Mr. Henry Cole's proposition that the Society of Arts should take up the matter of marking the residences of remarkable men, it does seem more in the way of the Board of Works, who name and number the streets, altering, not always wisely or with good taste, with but little respect for priority or historical right. In some cases the Society of Arts might aid, if not take the initiative, though I would mention, for their edification, that several artists having wished to place a marble tablet on the house in which J. M. W. Turner was born and lived, in Maiden-lane, Covent-garden, subscribed a sum for that purpose, but on application to the Board of Works were refused permission. The money collected was presented to the fund then forming in aid of the family of the late John Cross, whose works were exhibited in the Great Room in the Adelphi—a fund that I am happy to say (with the Royal bounty and other aid) has placed that artist's family in ease and comfort. Thus the Turner tablet fund was merged into the Cross fund as the best available way of winding up that memorial.

I am, &c.,

JOHN LEIGHTON.

July 27th, 1863.

* Any two plants, in flower, may be taken by the Local Examiner, he reporting their names to the Society of Arts when he returns the Candidates' papers.

Proceedings of Institutions.

METROPOLITAN ASSOCIATION FOR PROMOTING THE EDUCATION OF ADULTS.—The Committee of this Association have issued the following notice of the Examinations in Religious Knowledge for 1864:—Second Annual Examination in Religious Knowledge, 1864; examiner, Rev. A. Blomfield, M.A. The Annual Examinations in Religious Knowledge are held under the direction of the Lord Bishops of London and Winchester, who appoint the examiner, and award the prizes and certificates. Every candidate must be at least twelve years of age, and must have previously received from this Association, or from a Local Board connected therewith, or with the Society of Arts, a certificate or pass for proficiency in Elementary Knowledge. The second annual examination will be conducted by the Local Boards of the Association on Tuesday evening, May 10th, 1864. Syllabus, lower grade:—1. Order of Morning and Evening Prayer and the Church Catechism. 2. The Gospel of St. Luke. 3. The First Book of Kings. Higher grade. 1. Order of Morning and Evening Prayer and the Church Catechism. 2. The Office for Holy Communion. 3. The Gospel of St. Luke. 4. The First Book of Kings. The questions will be so framed as to elicit a knowledge of the leading facts of Scripture History. Candidates are allowed to select either grade at their discretion. All candidates who pass a satisfactory examination will receive a certificate signed by the Bishop of the diocese. The following prizes are also offered to the most successful candidates:—Higher grade. First prize, books to the value of £3; second prize, books to the value of £2; third prize, books to the value of £1 10s. Lower grade. First prize, books to the value of £1; second prize, books to the value of 10s. Candidates will be allowed to select books to the amount of their respective prizes from a list of works sanctioned by the Society for Promoting Christian Knowledge. Paid teachers are not allowed to compete for the prizes. The name of each candidate must be given to the Secretary of the Local Board at which he proposes to present himself, on or before May 1st. Further information can be obtained of the Secretaries of the Local Boards, or of the Secretary of the Association, 19, John-street, Adelphi.

PARLIAMENTARY REPORTS.

SESSIONAL PRINTED PAPERS.

Par.
Numb.

- Delivered on the 11th and 13th July, 1863.*
411. Metropolitan Board of Works—Copy of Letters, &c.
418. Municipal Boroughs (Ireland)—Paper.
425. Anchors and Chain Cables Bill—Copy of a Letter.
422. Judgments (Courts of Common Law)—Return.
330. Finance Accounts—Classes 1 to 7.
204. Bills—Charitable Trusts (Ireland).
222. „ Waterworks Clauses (amended).
225. „ Volunteers (Lords' Amendments).
226. „ Regimental Debts, &c. (Lords' Amendments).
223. „ Poisoned Grain, &c.—Prohibition (amended).
224. „ Church Rates Recovery.
Poland—Correspondence (Part 3.)
Public General Acts—Caps. 30, 31, 32, 33, 34, 35, 36, 37, and 38.
Delivered on 14th July, 1863.
417. Treacastle National School—Return.
423. Patent Law Expenses—Return.
434. Cape of Good Hope Mails—Draft Contract.
227. Bills—Turnpike Trusts Arrangements.
228. „ Turnpike Acts Continuance, &c.
Brazil and River Plate Mails—Contract.
Distinguished-Service Colonels, &c.—Report of Commission.
Delivered on 15th July, 1863.
429. Police (Counties and Boroughs)—Return.
437. Dover and Ostend Mails—Copy of Correspondence.
433. Atlantic Royal Mail Steam Navigation Company—Further Papers.
439. West India Mails—Draft Contract.
229. Bills—Companies Clauses—Amended.
231. „ Nuisances Removal Act (1855) Amendment (as amended in Committee and on Re-commitment).

232. Bills—Jurisdiction of Justices.
234. „ Pauper Lunatic Asylums.
235. „ Petty Sessions (Ireland).
236. „ Union Relief Aid Acts Continuance (amended).
North America (Foreign Enlistment Act)—Memorial from certain Shipowners of Liverpool.

Delivered on 16th July, 1863.

414. Quartermasters—Return.
415. Caledonian Canal—Fifty-eighth Report of Commissioners.
421. Paupers (Scotland)—Return.
436. Public Income and Expenditure—Account.
438. Canada and British Columbia—Return.
187. Bills—British Columbia Boundaries.
230. „ Railway Clauses (amended).
237. „ Colonial Letters Patent.
238. „ Expiring Laws Continuance.
239. „ Land Tax Commissioners' Names.
240. „ Petty Offences.
241. „ Telegraphs (with the Amendments made by the Lords).
233. „ Statute Law Revision.
Transportation and Penal Servitude—Report of the Commissioners (Vols. 1 and 2).
Colonial Possessions (West Indies and Mauritius)—Reports (Part 1).

Delivered on 17th July, 1863.

- 198 (1.) Militia (Ireland)—Further Returns.
431 (A.) Poor Rates and Pauperism—Return (A.)
385. Private Bill Legislation—Report and Minutes of Evidence.
440. London (City) Traffic Regulation Bill—Minutes of Evidence.
242. Bills—Partnership Law Amendment (as amended by the Select Committee, and on Re-commitment).
243. „ Naval Medical Supplemental Fund Society Winding-up Act (1861) Amendment (Lords Amendments).
244. „ Officers of Royal Naval Reserve (Lords Amendments).
245. „ Public Works (Manufacturing Districts) (Lords Amendments).
246. „ Thames Embankment (South Side) (Lords Amendments).
247. „ Prison Ministers (Lords Amendments).
248. „ Sheep and Cattle (Scotland) (Lords Amendments).
249. „ District Parochial Churches (Ireland) (Lords Amendments).

Copies of the under-mentioned Papers, presented by Command, will be delivered to Members of Parliament applying for the same at the Office for the Sale of Parliamentary Papers, House of Commons:—
47. Turnpike Trusts (England and Wales)—Accounts, 1860.
48. Railway Accidents—Reports of Inspecting Officers (Part III.)

Delivered on 18th and 20th July, 1863.

430. Emigration—Returns.
433. Galway, Boston, and New York Mails—Draft of Contract.
442. Newcastle-upon-Tyne Trinity House—Return.
445. Holyhead Harbour—Report from the Committee.
451. Land Registry—Returns.
452. Population and Revenue—Return.
432. Dockyards and Steam Factories—Return.
441. Civil List Pensions—Paper.
350. Malta New Dock—Return.
413. Mhow Court Martial—Return.
242. Bills—Partnership Law Amendment (as amended by the Select Committee, and on Re-commitment).
243. „ Naval Medical Supplemental Fund Society Winding-up Act (1861) Amendment (Lords Amendments).
244. „ Officers of Royal Naval Reserve (Lords Amendments).
245. „ Public Works (Manufacturing Districts) (Lords Amendments).

PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[From Gazette, July 24th, 1863.]

Dated 27th March, 1863.

807. J. King, Chadshunt Farm, near Kington, and T. H. Marshall, Combroke, Warwickshire—Imp. in machinery and apparatus for preparing land for seed, and for harrowing land.

Dated 2nd June, 1863.

1375. G. H. Cottam, St. Pancras Iron Works, Old St. Pancras-road—Imp. in bricks suitable for being used for paving stables and other places.

Dated 17th June, 1863.

1519. F. De Wylde, Great College-street, Camden Town—An improved means for the protection and preservation of lead surfaces exposed to the action of water, and for the protection of such surfaces from decomposition by atmospheric action.—(A. com.)

1522. A. Samuelson, 28, Cornhill—Imp. in apparatus for evaporating liquids.

Dated 19th June, 1863.

1540. W. Hicklin, Balls-pond—Imp. in metal screens and sieves for screening and sifting, applicable also to other openwork articles.

Dated 20th June, 1863.
1559. W. Clark, 53, Chancery-lane—Imp. in the treatment of broom for the manufacture of paper pulp. (A com.)

Dated 23rd June, 1863.
1578. W. W. Sleigh, London—A new method of obtaining motive power.

Dated 24th June, 1863.
1592. E. Myers, 2, Millbank-row, and W. R. Williams, 35, Lambs Conduit-street—Imp. in wet gas meters.

Dated 25th June, 1863.
1598. C. A. Count de Goddes de Liancourt, 19, Holly-street, Dalston—Imp. in apparatus for the preservation of life from drowning.

Dated 3rd July, 1863.
1654. W. E. Newton, 66, Chancery-lane—Imp. in the treatment and preservation of skins of all kinds.

1656. C. Raulch, Bristol—Imp. in the manufacture of boots and shoes.

1658. H. Thomas, Birmingham—An imp. or imps. in candlesticks.

1660. E. Lellos, Threadneedle-street—Imp. in the means of and apparatus for churning.

Dated 4th July, 1863.
1666. H. A. Bonneville, 24, Rue du Mont Thabor, Paris—Imp. in steam engines. (A com.)

1670. J. Oxley, Frome, Somersetshire—Imp. in filtering apparatus.

Dated 6th July, 1863.
1672. A. Gower and S. Gower, Market Drayton—An improved sowing and harrowing machine.

1676. J. M. Croft, 8, Abbey-road, St. John's-wood—Imp. in propellers for propelling vessels.

1680. G. C. Collyer, 152, St. George's-street-east—Imp. in the treatment of cut tobacco for its better preservation.

Dated 7th July, 1863.
1684. E. Edwards, Birmingham—Imp. in instruments or apparatus to be used in the manufacture of glass finger plates and other articles made of glass, and in kilns for annealing articles made of glass.

1686. J. Orr, Kidderminster—Imp. in weaving piled and other fabrics, and in the machinery or apparatus connected therewith.

1688. W. E. Gedge, 11, Wellington-street, Strand—Improved apparatus for milking. (A com.)

Dated 8th July, 1863.
1692. G. Haseltine, 12, Southampton-buildings, Chancery-lane—Imp. in brick machines. (A com.)

1694. F. Ely, Totten, Southampton—An improved composition applicable to corn plasters.

1700. R. Tallerman and L. A. Tallerman, 131, Bishopsgate-street Without—A new method of waterproofing and ventilating boots, shoes, and slippers, for preventing wet and damp feet.

1704. J. Thomas, Battersea—Imp. in treating ores and earths containing iron in order to obtain the metal therefrom.

Dated 9th July, 1863.
1708. R. Phillipson and W. Bond, Accrington—Imp. in temples for looms.

1710. P. G. B. Westmacott, Newcastle-upon-Tyne—Imp. in cranes, and in dock gate and other crabs.

1712. P. G. B. Westmacott, Newcastle-upon-Tyne—Imp. in hydraulic engines.

1714. R. Agate, Hornsey—Imp. in the construction of skylights and rooflights for railway stations, conservatories, and other similar structures.

1716. W. Tent, Birchin-lane—Imp. in pins or hooks for suspending fabrics, dresses, or parts of dresses, curtains, and other articles of upholstery or apparel.

1718. W. Tasker, jun., Waterloo Iron Works, near Andover—Imp. in thrashing machines.

Dated 10th July, 1863.
1720. A. R. Johnston, The Grove, Yoxford, Suffolk—An improved portable fence for sheep and cattle pens or for other enclosures.

1722. J. J. Shedlock, 12, Abingdon-street, Westminster—Imp. in the construction of soil pits, and in the mode of emptying the same. (A com.)

1724. W. Clarke, Forest-road, Nottingham—Imp. in the manufacture of ornamental lace.

1726. R. Hornsby, jun., J. Bonnell, and W. Astbury, Grantham, Lincolnshire—Imp. in traction engines, and in apparatus for ploughing and tilling lands by steam and other power, part of which imps. is also applicable to driving or giving motion to machinery.

1728. W. Henderson, Kensington—Imp. in treating ores and other substances containing ores, in the manufacture of iron, steel, and alloys of iron, and of a purifying and deoxidizing agent therefrom, also in the construction of retorts or kilns for treating the said ores and substances.

1730. J. Campbell, Silvertown, Essex—Imp. in the permanent way of railways, and in supporting the rails thereof.

Dated 11th July, 1863.
1734. M. W. Ruthven, 72, Oxford-terrace, Hyde-park—Imp. in rudders or apparatus for steering vessels.

1736. J. Orr, J. Brinton, and J. Lewis, Kidderminster—Imp. in weaving "chenille," and in the machinery or apparatus connected therewith.

1738. R. A. Brooman, 166, Fleet-street—Imp. in cartridges for breech-loading arms. (A com.)

Dated 13th July, 1863.
1740. J. Mortimer, Hoxton-hall, High-street, Hoxton—Imp. in the construction and arrangement of dwelling houses in combination with the means employed for ventilating the same.

1742. H. Coulter, Liverpool—Imp. in the burners of hydro-carbon and other fluid burning lamps.

1746. R. S. Walker, High-street, Wapping—Imp. in sheathing or coating iron ships.

Dated 14th July, 1863.
1756. C. Opperman, King's-road, Peckham—Imp. in means or apparatus to facilitate the connecting and disconnecting horses and other animals with carriages.

1758. J. Holmes, T. Holmes, and F. R. Holmes, Norwich—Imp. in threshing and dressing machines.

1760. J. Davison, Southwick, near Sunderland—Imp. in furnaces for boilers, smelting, and other useful purposes.

1762. W. Wood, Monkhill, near Pontefract—Imp. in "warping" or covering land, bog, or peat, with earth or soil.

1764. W. Roberts, Lylands Twyford, near Winchester—Imp. in ploughs.

1766. J. Slater, Derby-villas, Park-row, Plaistow—Improved machinery for compressing bricks, tiles, and other plastic materials.

Dated 15th July, 1863.
1768. T. Wimpenny, Holmsfirth, Yorkshire—Certain imp. in machinery or apparatus for roving and spinning wool, cotton, and other fibrous substances.

1770. W. T. Cheetham, Ashton-under-Lyne—Imp. in obtaining hydraulic motive power.

1772. P. A. J. Dujardin, 29, Boulevard St. Martin, Paris—Imp. in electric telegraphs.

1774. R. A. Brooman, 166, Fleet-street—Improved means of and apparatus for reducing charcoal and other friable substances to fine or impalpable powder, particularly applicable to the manufacture of a substitute for lamp black. (A com.)

Dated 16th July, 1863.
1782. H. Elliott, Birmingham—Imp. in breech-loading fire-arms.

1784. L. R. Bodmer, 2, Thavies-inn, Holborn—The manufacture of a new product from peat and peat tar. (A com.)

1788. A. Monticart, Mildmay-park, and W. Tent, Birchin-lane—An improved mode of attaching hooks to furniture or fabrics for suspending dresses or parts of dresses, fabrics, curtains, and other articles of upholstery or apparatus.

1790. O. Wakefield, 10, Union-place, Lambeth-road, Lambeth—Imp. in cocks or taps.

1792. E. Maw, Leamington—Imp. in the manufacture of pillars, posts, columns, mouldings, and buildings, when corrugated metal is employed, and in machinery used in corrugating, moulding, and shaping metal for such purposes.

PATENTS SEALED.

[From Gazette, July 24th, 1863.]

<i>July 24th.</i>	255. S. W. Francis.
248. J. Oglesby, J. Dickinson, W. M. Dickinson, and J. Dickinson.	258. C. P. Stewart & J. Robinson.
	295. A. Forbes.
	296. W. C. Barnes.
249. H. O. Cook & E. G. Terrey.	974. T. A. Weston.
251. R. Ward.	1091. E. G. Brewer.
254. W. Conisbee.	

[From Gazette, July 28th, 1863.]

<i>July 28th.</i>	367. W. Whitaker & W. Tongue
283. W. E. Gedge.	396. S. Whitaker.
286. T. Bennett.	413. J. H. Johnson.
299. W. Clark.	481. J. Brown.
310. J. Mellor.	499. J. Clay.
315. J. J. Hays.	518. R. Maynard.
316. L. J. H. Marville.	582. E. Habel and E. Suckow.
324. J. Gill and J. Parkin.	714. W. H. Emett.
334. A. Johnston.	749. G. Coles, J. A. Jaques, and J. A. Fanshawe.
339. J. Price.	1080. W. Rodger.
362. T. Hill.	
364. M. Wigzell.	

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

[From Gazette, July 28th, 1863.]

<i>July 20th.</i>	<i>July 23rd.</i>
1768. E. Hollis.	1823. J. Renshaw.
1770. W. Turner & J. W. Gibson.	<i>July 24th.</i>
1803. J. Pilkington.	1811. L. Kaberry.
1804. H. C. Ash.	<i>July 25th.</i>
<i>July 22nd.</i>	1887. J. Rives.
1775. R. Hewens.	

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

[From Gazette, July 28th, 1863.]

<i>July 21st.</i>	<i>July 22nd.</i>
1729. C. Amet.	1742. J. Onions.
1767. W. Wood.	<i>July 25th.</i>
	2124. P. A. Balestrini.